

IN THE CLAIMS:

Claims 1-29 have been amended herein. All of the pending claims 1 through 29 are presented below. This listing of claims will replace all prior versions and listings in the application. Please enter these claims as amended.

1. (Currently Amended) A method for forming a semiconductor device assembly, comprising:
providing a carrier substrate including at least one die-attach location and at least one terminal adjacent to ~~said~~the at least one die-attach location; and
providing a solder mask on ~~said~~the carrier substrate, ~~said~~the solder mask including at least one device-securing region positioned over at least a portion of ~~said~~the at least one die-attach location, at least one recessed area adjacent to ~~said~~the at least one device-securing region, and at least one dam adjacent to ~~said~~the at least one recessed area, opposite from ~~said~~the at least one device-securing region, ~~said~~the at least one dam contacting at least a portion of a peripheral edge of ~~said~~the at least one terminal.
2. (Currently Amended) The method of claim 1, further comprising:
applying adhesive material to at least one of ~~said~~the at least one device-securing region of ~~said~~the solder mask and a bottom surface of at least one semiconductor device to be secured to ~~said~~the at least one device-securing region.
3. (Currently Amended) The method of claim 2, further comprising:
positioning ~~said~~the at least one semiconductor device ~~to on~~ ~~said~~the at least one device-securing region, ~~said~~the adhesive material located between ~~said~~the bottom surface and ~~said~~the at least one device-securing region securing ~~said~~the at least one semiconductor device to ~~said~~the at least one device-securing region.

4. (Currently Amended) The method of claim 3, wherein ~~said~~ positioning comprises applying force to at least one of ~~said~~the at least one semiconductor device and ~~said~~the carrier substrate.

5. (Currently Amended) The method of claim 3, wherein ~~said~~ positioning comprises forcing ~~said~~the adhesive material to spread between ~~said~~the bottom surface of ~~said~~the at least one semiconductor device and ~~said~~the at least one device-securing region.

6. (Currently Amended) The method of claim 5, wherein ~~said~~ positioning comprises causing excess adhesive material to flow laterally beyond at least one of a peripheral edge of ~~said~~the at least one semiconductor device and a periphery of ~~said~~the at least one device-securing region.

7. (Currently Amended) The method of claim 6, further comprising:
receiving ~~said~~the excess adhesive material within ~~said~~the at least one recessed area.

8. (Currently Amended) The method of claim 6, wherein ~~said~~the at least one dam prevents ~~said~~the excess adhesive material from contaminating a connection surface of ~~said~~the at least one terminal.

9. (Currently Amended) The method of claim 1, wherein ~~said~~-providing ~~said~~the solder mask comprises providing a solder mask with ~~said~~the at least one dam comprising a laterally extending portion configured to cover at least portion of a peripheral edge of a connection surface of ~~said~~the at least one terminal.

10. (Currently Amended) The method of claim 1, wherein ~~said~~-providing ~~said~~the solder mask comprises providing ~~said~~the carrier substrate with ~~said~~the solder mask already secured thereto.

11. (Currently Amended) The method of claim 1, wherein ~~said~~providing ~~said~~the solder mask includes securing a preformed solder mask to a surface of ~~said~~the carrier substrate.

12. (Currently Amended) The method of claim 1, wherein ~~said~~providing ~~said~~the solder mask includes forming ~~said~~the solder mask on a surface of ~~said~~the carrier substrate.

13. (Currently Amended) The method of claim 12, wherein ~~said~~forming is effected stereolithographically.

14. (Currently Amended) The method of claim 12, wherein ~~said~~forming comprises forming a plurality of at least partially superimposed, contiguous, mutually adhered material layers.

15. (Currently Amended) A method ~~for a~~ for designing ~~solder~~ a solder mask for use on a carrier substrate, comprising:
configuring at least one device-securing region to have a semiconductor device secured thereto;
and
configuring a plurality of raised dams to be positioned adjacent to and in contact with peripheries of terminals of the carrier substrate.

16. (Currently Amended) The method of claim 15, further comprising:
configuring at least one recessed area between at least a portion of a periphery of ~~said~~the at least one device-securing region and at least one of ~~said~~the plurality of raised dams.

17. (Currently Amended) A method for designing a solder mask for use on a carrier substrate, comprising:
configuring at least one device-securing region to have a semiconductor device secured thereto;
and
configuring at least one recessed area adjacent to ~~said~~the at least one device-securing region.

18. (Currently Amended) The method of claim 17, further comprising:
configuring a plurality of raised dams adjacent to ~~said~~the at least one recessed area, opposite from ~~said~~the at least one device-securing region.

19. (Currently Amended) A method for designing a solder mask to be used on a carrier substrate, comprising:
configuring at least one device-securing region of the solder mask to be located over at least a portion of a die-attach location of the carrier substrate;
configuring at least one recessed area laterally adjacent to ~~said~~the at least one device-securing region; and
configuring at least one dam adjacent to ~~said~~the at least one recessed area, opposite from ~~said~~the at least one device-securing region, to be located laterally adjacent to and contact a peripheral edge of a terminal protruding from a surface of the carrier substrate, and to have a height at least as great as a height of ~~said~~the at least one device-securing region.

20. (Currently Amended) The method of claim 19, wherein ~~said~~-configuring ~~said~~the at least one dam comprises configuring ~~said~~the at least one dam to include a laterally extending ledge positionable over at least a portion of a peripheral edge of a connection surface of the terminal.

21. (Currently Amended) The method of claim 19, wherein ~~said~~configuring ~~said~~the at least one dam comprises configuring ~~said~~the at least one dam to have a height that exceeds ~~said~~the height of ~~said~~the at least one device-securing region.

22. (Currently Amended) The method of claim 21, wherein ~~said~~configuring ~~said~~the at least one dam comprises configuring ~~said~~the at least one dam to be located at an elevation which is substantially the same as or less than an elevation of an active surface of a semiconductor device to be positioned on ~~said~~the at least one device-securing region.

23. (Currently Amended) A method for designing a carrier substrate, comprising: configuring a substantially planar substrate to include at least one die-attach location; and configuring at least one terminal adjacent to ~~said~~the at least one die-attach location and to protrude a sufficient distance from ~~said~~the substantially planar substrate to prevent excess adhesive material forced from between a semiconductor device and ~~said~~the at least one die-attach location from contaminating a connection surface of ~~said~~the at least one terminal.

24. (Currently Amended) The method of claim 23, further comprising: configuring an adhesive-receiving area between ~~said~~the at least one die-attach location and ~~said~~the at least one terminal.

25. (Currently Amended) The method of claim 24, wherein ~~said~~configuring ~~said~~the adhesive-receiving area comprises configuring at least one recess.

26. (Currently Amended) The method of claim 25, wherein ~~said~~configuring at least one recess comprises configuring ~~said~~the at least one recess to substantially laterally surround ~~said~~the at least one die-attach location.

27. (Currently Amended) The method of claim 25, wherein ~~said~~ configuring at least one recess comprises configuring ~~said~~the at least one recess to be located adjacent to only a portion of ~~said~~the at least one die-attach location.

28. (Currently Amended) The method of claim 23, wherein ~~said~~ configuring ~~said~~the at least one terminal comprises configuring ~~said~~the at least one terminal to have a height that is at least as great as an elevation at which a bottom surface of the semiconductor device will be supported above a surface of ~~said~~the substantially planar substrate.

29. (Currently Amended) The method of claim 28, wherein ~~said~~ configuring ~~said~~the at least one terminal comprises configuring ~~said~~the at least one terminal to have a height that is, at most, substantially the same as an elevation at which a top surface of the semiconductor device will be located upon securing the semiconductor device relative to ~~said~~the substantially planar substrate.